Site Management Plan
APN 208-281-026 & 210-191-060
WDID# 1B161373CHUM

Submitted to:

State Water Resources Control Board -
North Coast Region
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NRM
NATURAL RESOURCES MANAGEMENT
CORPORATION

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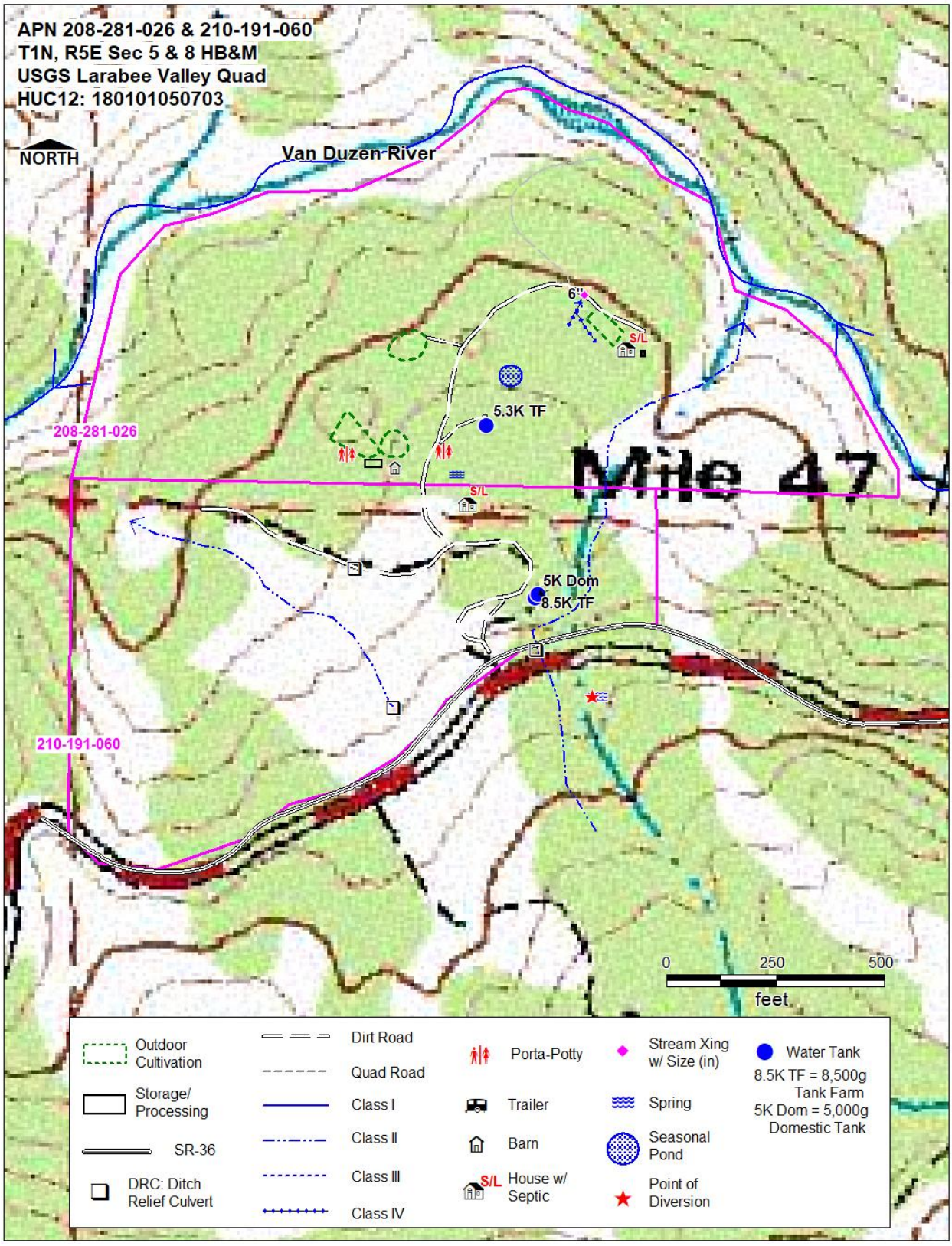

Figure 2. Property map for APN 208-281-026 & 210-191-060

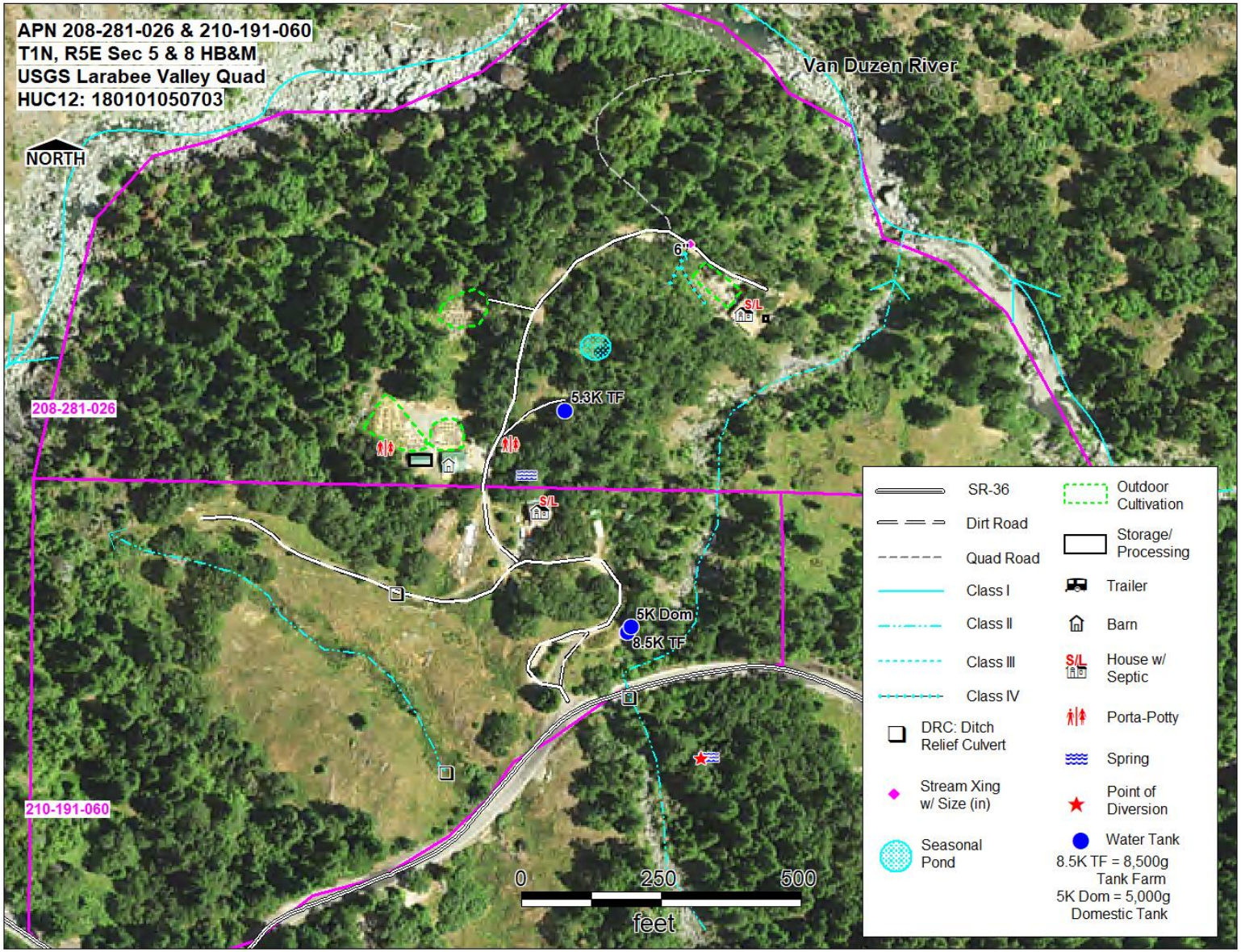

Figure 3. Property map for APN 208-281-026 & 210-191-060

Site Management Plan

This document serves as the Site Management Plan for APN 208-281-026 & 210-191-060 pursuant to Order No. WQ 2017-0023-DWQ. On October 17, 2017, the State Water Board adopted the Cannabis Cultivation Policy - Principles and Guidelines for Cannabis Cultivation (*Cannabis Policy*) and General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities (*Cannabis General Order)*, Order No. WQ 2017-0023-DWQ. One of the requirements of Order No. WQ 2017-0023-DWQ is that all Tier 1 and Tier 2 Dischargers shall submit and implement a Site Management Plan (Plan) that describes how the Discharger is implementing the best practical treatment or control (BPTC) measures listed in Attachment A.

Summary

These are two adjacent parcels with one owner/operator which encompasses approximately 43 acres. The northern property boundary terminates at the Van Duzen River, while the southern boundary line is flanked by Highway 36. The landowner purchased the two adjoining parcels in 2018 and has a deed for a spring located on a parcel just south Highway 36. Water for domestic use and some cultivation use is gravity fed from this spring source, for which a 1600 diversion permit has been submitted. The property meets the Tier 2 standards laid out in the Order.

The landowner currently has 18,800 gallons of water storage capacity in hard sided tanks and is planning to have a well drilled in June 2018 to provide ground water as the source of irrigation water.

The combined cultivation area is approximately 15,300 square feet and both parcels have cultivation on them. The northern cultivation site is smaller with plants in individual raised beds on dripline; the larger cultivation footprint is on the immediate, southern parcel and has plants in pots that are hand watered. The general geography of the property largely consists of gentle slopes with natural flats and pastureland, prior to the break in slope that drops down with around 30 percent slope to the Van Duzen River. The residential houses, barn, pasture, and cultivation sites are all located in the flatter terrain of the property. The cultivation areas have a slope less than 15%.

1. Sediment Discharge BPTC Measures

1.1. Site Characteristics

1.1.1. Cultivation Areas

The 15,300 square feet of cultivation is made up of three outdoor cultivation gardens. The southern garden is split up into two areas and, for the 2018 season, grew approximately 80 plants that were planted in mid-June. The middle garden is growing approximately 50 smaller plants, which were planted towards the end of July. The northern garden has 36 plants in it for the 2018 season and were the first ones to be planted this year.

Due to an unforeseen issue with the water supply for 2018, the landowner decided to not plant any of the gardens to their full capacity. This decision was made in order to stay in compliance with the non-diversionary periods set forward by SWRCB and CDFW.

Monitoring: In preparation for the winter season, bare ground in-between outdoor pots and any soil left in outdoor pots should be planted with a cover crop as soon as the cultivation is complete. Cover crops will be checked for germination by December 15th. If germination has not been successful, these areas will instead be covered with a weed free straw. Monthly monitoring required includes checking for surface water runoff from irrigation and reporting if there are any indications of soil erosion.

Corrective Actions: There are no corrective actions associated with this section.

1.1.2. & 1.1.4. Roads & Watercourse Crossings

Road A
Road A runs from the gate at SR 36, downhill through both parcels, and terminates at the house on the northern parcel (APN 208-281-26). The road sees year-round traffic consisting primarily of 2-passenger "side-by-side" type quad-runner OHV for daily work/maintenance/monitoring activities as well as full-size pick-up trucks for early season set-up and periodic materials delivery as needed in the summer months. The road is well rocked with angular red chert in all of its grades 15% or steeper. The other reaches of Road A have a good running surface of native rock or good base-rock; with one exception.

The reach between the southern parcel boundary on APN 210-191-26 and the existing 6-inch diameter culvert near the northern cultivation area will receive 3 rolling dips to provide additional drainage breaks. Moreover, the section of this reach between the downhill most rolling dip and the spur road access to the middle-slope cultivation area will be re-graded to extinguish the minor rill erosion of approximately 225-feet.

Road A has two waterway crossings. Both are on APN 210-191-26 and are scheduled to be upgraded under CDFW LSAA 1600-2017-0067-R1. Project 2 on the 1600 agreement is the excavation of the road at an existing 6-inch diameter plastic culvert that is the outflow for a Class IV drainage ditch. The 6-inch diameter pipe will be replaced with an 18-inch diameter culvert to minimize erosion potential from plugging or flood discharge. Project 3 will be the installation of an 18-inch diameter culvert to drain the overflow from a human-made pond that is spring-fed in the winter and currently flows on to the road surface at high water table conditions. This water on the road is also a contribution to the erosion on the road reach requiring 3 rolling dips (above). The culvert will have rock armor dissipation at the transition from its outlet to the swale below.

Road A - Middle Cultivation Spur
This spur from Road A to the middle cultivation area (MCS) is about 75 feet of benign road on natural ground with no erosion potential.

LEGACY ROADS

Road B
Road B is an old ranch road that terminates at an historic hay barn. It is a native surface, low volume road prism in a grassland setting. This narrow road sees no vehicular traffic under the current ownership. One Ditch Relief Culvert exists on this road and accepts the surface run-off from the wetslope area between here and Road A. It was upgraded in the recent past to an 8-inch diameter plastic corrugated pipe and has good dissipation rock at its outlet. It is high in the shallow fill prism, however, and is poking out in the road tread. Since this road does not have vehicular traffic, the exposed culvert should not be subject to crushing or compromised function. Maintenance will require seasonal inspection of the inlet and ditch for free flow and the grassland around the outlet to check for erosion.

Road C
Road C is a legacy skid road and, more recently river access via foot and quad-runner traffic. This road is very rocky – on bedrock and fractured bedrock. Minor erosion on the lowest reach does deliver to the back edge of the Van Duzen River floodplain. Two waterbars installed uproad will eliminate this legacy issue.

Table 1.Existing culvert information and culvert size recommendations based on Culvert Q

ID #	Existing Culvert(D) Diameter (in)	Headwall (HW) Height (in)	HW/D (ratio)	Drainage Area (acres)	Q100 (cfs)	Culvert Capacity (cfs)	Is Culvert Undersized?	Recommended Culvert Diam. (in)	Recommendation Based On
Project 2	6”	12	1.0	0.6	1	0	TRUE	18”	100 year Q
Project 3	0	0	0	1	0	0	TRUE	18”	100 year Q

Monitoring: During the rainy season of each year, the DRC on road B will need an inspection of the inlet and ditch for free flow and the grassland around the outlet to check for erosion. Winter monitoring items include checking that all inboard ditches area clear of debris and sediment and inspecting the inlet/outlet of all ditch relief culverts to make sure they are clear and functioning.

Corrective Actions: Road A needs rolling dips installed and regrading (described above) to be completed by October 1st, 2018. Both watercourse crossings on Road A will be upgraded before the 2019 rainy season, under an LSAA. Road C needs two waterbars installed by October 1st, 2018. See Figure 4 for rolling dip and waterbar installation locations.

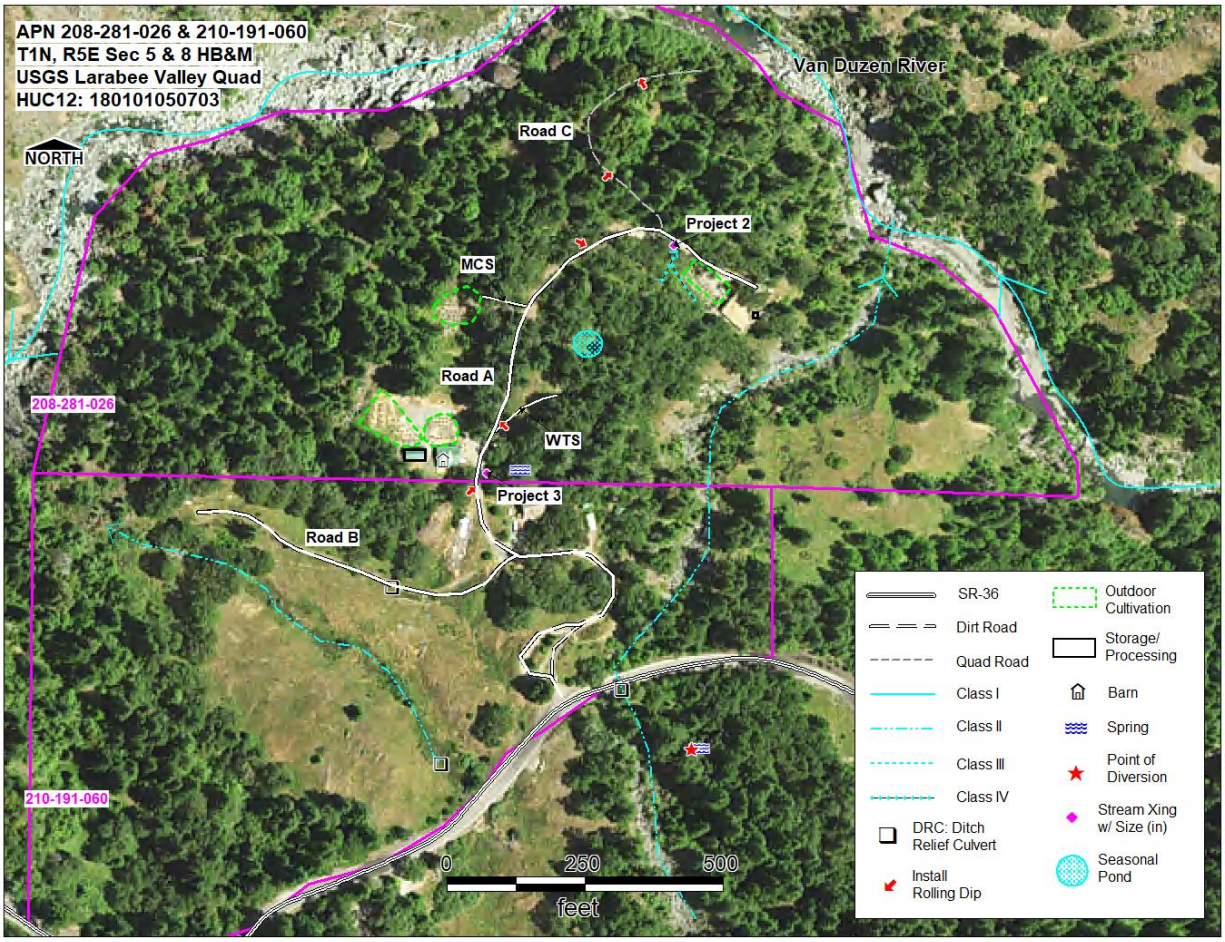

Figure 4. Roads and treatments for APN 208-281-026 & 210-191-060

1.1.3. Watercourses

On APN 210-191-060 there are two Class II Streams. Both streams enter the property from culvert outlets associated with CA State Route 36. The road construction that is currently taking place to widen the highway is preventing access or view of the inlets of the culverts and active changes are occurring to the inboard and outboard edges of the highway. The westernmost of these two streams flows northwest towards the Van Duzen River and likely originates on the southern side of State Route 36 as ditch run-off. On the eastern side of APN 210-191-060, the other Class II stream flows northeast across both parcels and is a tributary to the Van Duzen river. Neither of these waterways have cannabis infrastructure within their 100-foot riparian buffers. The eastern stream does have 13,500 gallons of water storage (hard tanks) 65-feet from its left bank, but there is no riparian vegetation above the bank and there is a topographic high separating the water tanks from the stream; if the tanks were to fail, the impact direction would not be towards the stream.

On APN 208-281-026 there is a Class IV human-made drainage ditch along the back edge of the northern cultivation area, a Class IV pond/spring capture near the southern property boundary on Road A (1600 Project 3), and a human-made rainwater pond between these two other anthropogenic features (Figure 2).

Monitoring: Winter monitoring includes checking the inlet and outlet of all stream crossings to ensure that they are clear of all debris and sediment and that they are functioning properly. This monitoring should be completed before the rainy season and then again after any major rain event.

Corrective Actions: There are no corrective actions associated with this section.

1.2. Sediment Erosion Prevention and Sediment Capture

Any future grading or road work will follow the requirements listed out in Section II of Attachment A of the General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities (Order WQ 2017-0023-DWQ), constructed by the State Water Resources Control Board.

Monitoring: Year-round, monthly monitoring includes reporting on any surface water runoff, indications of soil erosion, the status of any sediment capture methods being implemented (silt fence, straw wattle, etc.), any activities done to maintain the effectiveness of erosion control and sediment capture measures.

Corrective Actions: There are no corrective actions associated with this section.

2. Water Use and Storage BPTC Measures

This 2018 season is the first year the current landowner has had *Cannabis* cultivation on the property. There is a total of 14,800 gallons of irrigation storage and a 5,000-gallon domestic tank. At the beginning of the year, the plan for the cultivation season was to use some of the irrigation water in storage until a well was drilled in June. This well would be ground water and act as the source for all irrigation water moving forward. Unfortunately, the well ended up being dry. In order to stay in compliance with the non-diversionary period, significantly fewer plants were planted and if the 14,800 gallons ends up to not be enough water to sustain the small plant crop this year, the approximately 80 plants in the middle garden will be pulled.

Currently, irrigation water is sourced during the diversionary period from an off-property spring that has deeded water rights.

The landowner plans on installing float valves for the 2019 season. In order to continue to stay in compliance with water use the landowner plans on installing another 80,000 gallons in tank storage (this will either be a single custom tank or a tank farm).

This property is located on State-Route 36, along the section that is being widened. The State-Route 36 road construction required that the spring line be disconnected on multiple occasions; this caused the line to become airlocked. The construction company fixed the initial problem, but somehow the meter became over pressurized and the readings are now inaccurate. The landowner has accurate readings up until June; after that the water numbers are estimates (photos 11-13).

For future compliance, **water meters will be used** to quantify water use for irrigation and storage. A photo of the meter reading will be taken weekly when diverting surface water or monthly if using well to document water use.

Table 2. 2018 monthly irrigation water estimates

Irrigation	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Totals
To Storage	0	2000	3000	5000	2000	0	0	0	0	?	?	?	11500?
Direct Diversion	0	2000	3000	5000	2000	0	0	0	0	?	?	?	12000?
Week 1	0	500	750	1250	1000	0	0	0	0	0	?	?	-
Week 2	0	500	750	1250	1000	0	0	0	0	0	?	?	-
Week 3	0	500	750	1250	0	0	0	0	0	?	?	?	-
Week 4	0	500	750	1250	0	0	0	0	0	?	?	?	-
Usage from Storage	0	0	300	500	300	400	1280	3400	5600	2800?	?	?	14580?
Week 1	0	0	0	100	200	30	250	500	1400	1400	?	?	-
Week 2	0	0	0	100	100	80	300	700	1400	1400	?	?	-
Week 3	0	0	200	200	0	120	350	900	1400	?	?	?	-
Week 4	0	0	100	100	0	170	380	1300	1400	?	?	?	-

Table 3. 2018 monthly domestic water estimates

Domestic	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Totals
To Storage	0	1500	3000	2000	5000	2500	2800	2900	<4000	<4000	<4000	?	19700?
Direct Diversion	0	1500	3000	2000	5000	2500	2800	2900	<4000	<4000	<4000	?	19700?
Week 1	0	0	500	500	1500	500	700	800	<1000	<1000	<1000	?	-
Week 2	0	0	1500	500	1500	500	700	700	<1000	<1000	<1000	?	-
Week 3	0	500	1000	500	1000	800	700	700	<1000	<1000	<1000	?	-
Week 4	0	1000	0	500	1000	700	700	700	<1000	<1000	<1000	?	-
Usage from Storage	600	2000	2300	2600	2400	2900	2800	2800	3000?	3400?	3600?	?	28400?
Week 1	0	500	500	700	600	600	600	700	700?	800?	900?	?	-
Week 2	0	500	600	600	600	700	750	650	700?	800?	900?	?	-
Week 3	200	400	600	600	600	800	750	750	800?	900?	900?	?	-
Week 4	400	600	600	700	600	800	700	700	800?	900?	900?	?	-

Monitoring: Year-round, monthly monitoring includes reporting your cultivation and domestic water usage. Winter monitoring includes checking that tanks are located on stable ground.

Corrective Actions: All tanks must have a float valve installed before October 15th 2018, to prevent overflow. The landowner will install an additional 80,000 gallons of storage for the 2019 cultivation season. Water meters will be re-calibrated before October 15th and use will be recorded monthly from here on out.

3/4. Fertilizer, Pesticide, Herbicide, and Rodenticide/Petroleum Product BPTC Measures

Table 4. List of chemicals stored onsite & information about use

Product	Delivery	Storage	Use	Disposal
Vital Grow-Veg (3.7-2.7-3.7)	Product picked up from warehouse, delivery not needed	55-gallon barrel is stored in secondary containment in stable	Mixed into 300-gallon irrigation tank	Empty containers are stored onsite for re-use
Vital Grow-Bloom (2-5-0)	Product picked up from warehouse, delivery not needed	55-gallon barrel is stored in secondary containment in stable	Mixed into 300-gallon irrigation tank	Empty containers are stored onsite for re-use

There is currently no clean-up procedure in place, but the secondary containment is there to reduce any spilling from reaching undesired locations. All Nutrients and Pesticides on site are Certified Organic to ensure safety of the environment. The secondary containment is directly on concrete, so in the event of a spill everything is able to be cleaned up easily with rags and water.

Currently a hand pump is used to extract the nutrients from the drums. The nutrients are then placed directly into a measuring cup before they are dumped into the 300-gallon mixing/watering troughs. A pump is then used to push the nutrient enriched water through the drip system, which is manually valved for efficiency and to maximize water conservation.

Table 5. List of petroleum products stored onsite & information about use

Product	Delivery	Storage	Use	Disposal
Unleaded gasoline	purchased at local station and brought onsite in red gas cans	Red gas can & secondary containment	small generators & pumps	any product not used by end of season is kept for following season
Motor oil	Buy quart sized bottles off property	Stored in secondary containment bin	ATV	empty containers are recycled
Diesel Fuel	Delivered once a year	320-gallon fuel tank with secondary containment equipped	industrial generator	any product not used by end of season is kept for following season
Propane	Delivered once a year	650-pound storage tank	residential on southern parcel	any product not used by end of season is kept for following season

Monitoring: Year-round, monthly monitoring includes reporting on all materials delivered or stored at the site that could degrade water quality if discharged improperly. Winter monitoring includes storing all fertilizers/nutrients, petroleum products, unused soil, and/or other cultivation waste.

Corrective Actions: There are no corrective actions associated with this section.

5. Trash/Refuse and Domestic Wastewater BPTC Measures

Trash/refuse generated at this site consists of cardboard, plastic containers, and organic materials. All trash is contained in designated area within identified receptacles. Plastic containers are taken to a recycling facility. Cardboard is collected and stored until it is proper to burn this refuse. Trips to the sanitation station are made twice a month.

Cultivation-related wastes including empty soil/soil amendment/fertilizer/pesticide bags and containers, plant pots or containers, dead or harvested waste, and spent growth medium shall be stored and/or disposed of at locations where they will not enter surface waters, including leaching of nutrients and/or other chemicals into surface or ground waters. Organic materials (soil) are composted in designated areas, covered in tarp above and below and surrounded by straw wattle. Organic materials such as stems of plants are to be stored in a designated area until it is proper to burn this refuse.

The visitors that come to the property are fuel delivery and site evaluation personnel. The residence on the southern parcel is home to two people that are officers of the LLC. There are currently no direct employees of the business, but if there were they would not be residing on the property.

Wastewater generated onsite comes solely from the two households. The septic systems associated with the two houses are permitted and the outhouses on the northern parcel have "on-call' cleaning contracts though B&B Portable Toilets.

Monitoring: Year-round monthly monitoring includes reporting the dates, activity, and name of servicing company for servicing holding tanks and/or chemical toilets and the regular disposal of all trash generated on-site at licensed facility. Winter monitoring includes burning or otherwise properly disposing of all stems/roots; applying secondary containment to any spoils or cultivation waste piles to prevent leaching and any trash still on-site; and portable toilets must be cleaned for the rainy season or hauled off property.

Corrective Actions: There are no corrective actions associated with this section.

6. Winterization BPTC Measures

At the end of the growing season, prior to winter rains, the follow steps will be taken to prepare the site for winter:

- Soil used in cultivation will be planted with a cover crop and reused the following season
- Any bare soil on the fill slopes on the landing will be covered with straw 2 to 3 inches thick and secured with a tackafier.
- Cannabis stems and root balls will be burned
- All nutrients, fuels, and all chemicals will be placed in a secure storage shed
- All cultivation trash and debris will be properly disposed of
- All drainage or sediment capture features will be inspected for debris, blockages, or any potential for compromised function
- Roads will be maintained to protect water quality

As stated by the Water Code section 13267 the landowner will complete and submit technical monitoring reports monthly until winterization measures have been implemented.

These monthly reports will include:

- Surface water runoff
- Soil erosion control
- Sediment capture
- Stabilization of Disturbed Areas
- Erosion/sediment capture maintenance
- Material(s) storage and spill prevention
- Holding Tank, Septic Tank, or Chemical Toilet Servicing

Site Management Plan

Name of Legally Responsible Person (LRP)_____

Title for LRP (owner, lease, operator, etc.)_____

Signature:_____ Date:_____

Site Management Plan prepared by: *Natural Resources Management Corp. (NRM)*

Date:_____

NRM Signature:_____

Appendix A. Photo Documentation

Photo 1. Point of diversion (9/16/2016)

Photo 2. Southern cultivation area (9/16/2016)

Photo 3. Northern cultivation area (3/27/2017)

Photo 4. Seasonal pond (5/1/2017)

Photo 5. Seasonal pond (9/16/16)

Photo 6. Looking up road from northern cultivation area (3/30/17)

Photo 7. Road leading to house on southern parcel (8/23/18)

Photo 8. B&B near southern cultivation area

Photo 9. Residential house on northern parcel (9/16/169)

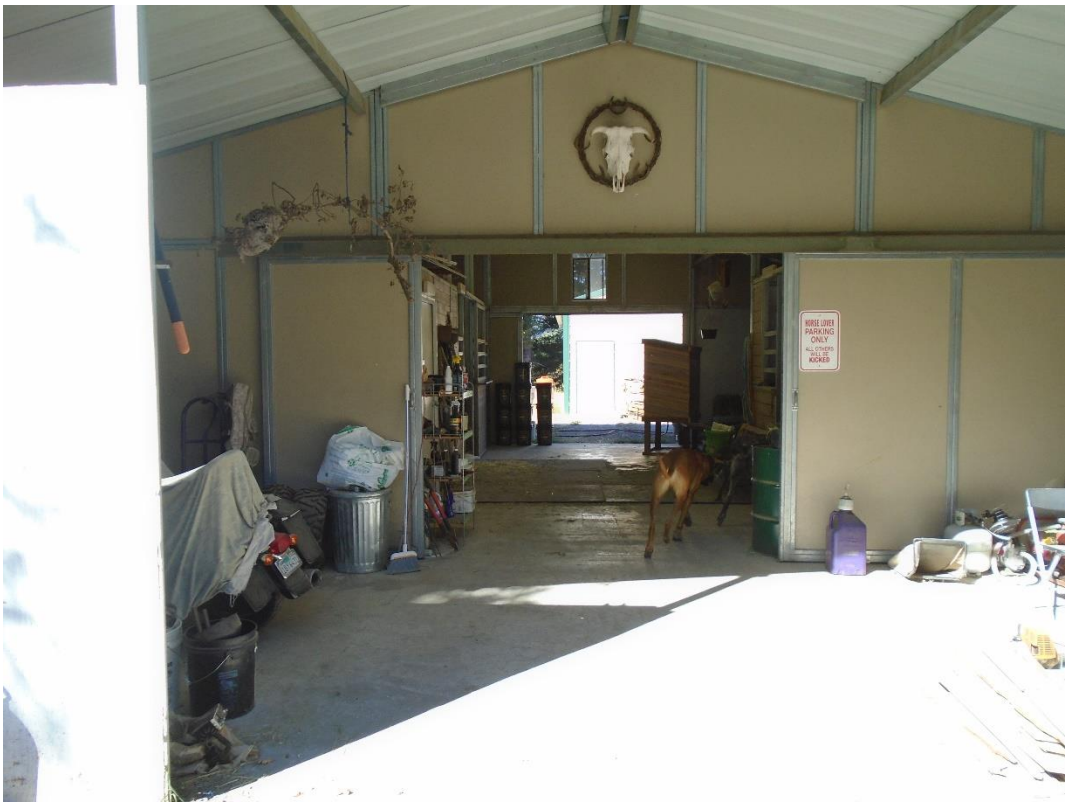

Photo 10. Inside of barn used for chemical storage (9/16/16)

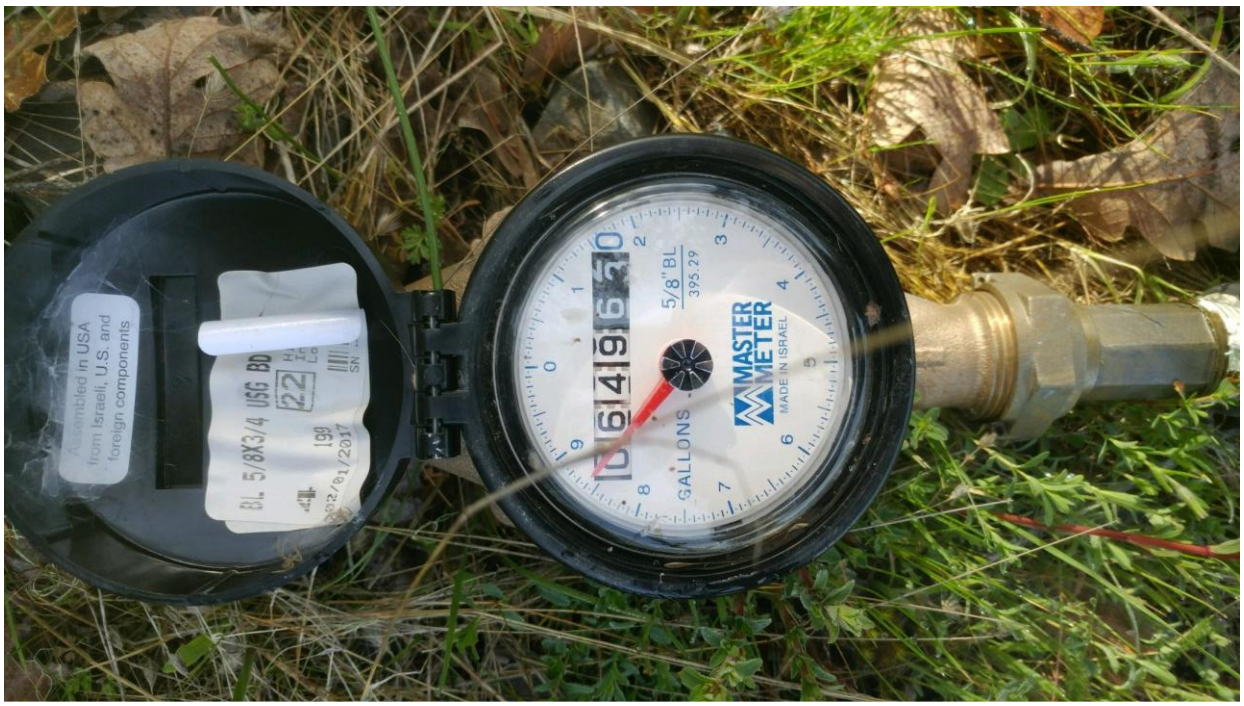

Photo 11. Meter reading – early May

Photo 12. Meter reading – late May

Photo 13. Meter reading – July


Photo 14. Project 2 on Road A – LDS at inlet

Photo 15. LDS of outlet

Photo 16. LUS of inlet

Photo 17. Road A Project 3 – future flow through culvert marked by arrow

Photo 18. Culvert installation on Road A – location of future outlet marked by red circle

Appendix B. BPTC Measures

SECTION 2 – REQUIREMENTS RELATED TO WATER DIVERSIONS AND WASTE DISCHARGE FOR CANNABIS CULTIVATION

The following Requirements apply to any water diversion or waste discharge related to cannabis cultivation.

Land Development and Maintenance, Erosion Control, and Drainage Features

Limitations on Earthmoving

1. Cannabis cultivators shall not conduct grading activities for cannabis cultivation land development or alteration on slopes exceeding 50 percent grade, or as restricted by local county or city permits, ordinances, or regulations for grading, agriculture, or cannabis cultivation; whichever is more stringent shall apply. The grading prohibition on slopes exceeding 50 percent does not apply to site mitigation or remediation if the cannabis cultivator is issued separate WDRs or an enforcement order for the activity by the Regional Water Board Executive Officer.

2. Finished cut and fill slopes, including side slopes between terraces, shall not exceed slopes of 50 percent and should conform to the natural pre-grade slope whenever possible.

3. Cannabis cultivators shall not drive or operate vehicles or equipment within the riparian setbacks or within waters of the state unless authorized under 404/401 CWA permits, a CDFW LSA Agreement, coverage under the Cannabis General Order water quality certification, or site-specific WDRs issued by the Regional Water Board. This requirement does not prohibit driving on established, maintained access roads that are in compliance with this Policy.

4. Cannabis cultivation land development and access road construction shall be designed by qualified professionals. Cannabis cultivators shall conduct all construction or land development activities to minimize grading, soil disturbance, and disturbance to aquatic and terrestrial habitat.

5. The cannabis cultivator shall control all dust related to cannabis cultivation activities to ensure dust does not produce sediment-laden runoff. The cannabis cultivator shall implement dust control measures, including, but not limited to, pre-watering of excavation or grading sites, use of water trucks, track-out prevention, washing down vehicles or equipment before leaving a site, and prohibiting land disturbance activities when instantaneous wind speeds (gusts) exceed 25 miles per hour. Cannabis cultivators shall grade access roads in dry weather while moisture is still present in soil to minimize dust and to achieve design soil compaction, or when needed use a water truck to control dust and soil moisture.

Construction Equipment Use and Limitations

6. Cannabis cultivators shall employ spill control and containment practices to prevent the discharge of fuels, oils, solvents and other chemicals to soils and waters of the state.

7. Cannabis cultivators shall stage and store equipment, materials, fuels, lubricants, solvents, or hazardous or toxic materials in locations that minimize the potential for discharge to waters of the state. At a minimum, the following measures shall be implemented:

1. Designate an area outside the riparian setback for equipment storage, short-term maintenance, and refueling. Cannabis cultivator shall not conduct any maintenance activity or refuel equipment in any location where the petroleum products or other pollutants may enter waters of the state as per Fish and Game Code section 5650 (a)(1).

2. Frequently inspect equipment and vehicles for leaks.
3. Immediately clean up leaks, drips, and spills. Except for emergency repairs that are necessary for safe transport of equipment or vehicles to an appropriate repair facility, equipment or vehicle repairs, maintenance, and washing onsite is prohibited.
4. If emergency repairs generate waste fluids, ensure they are contained and properly disposed or recycled off-site.
5. Properly dispose of all construction debris off-site. 6. Use dry cleanup methods (e.g., absorbent materials, cat litter, and/or rags) whenever possible. Sweep up, contain, and properly dispose of spilled dry materials.

Erosion Control

8. The cannabis cultivator shall use appropriate erosion control measures to minimize erosion of disturbed areas, potting soil, or bulk soil amendments to prevent discharges of waste. Fill soil shall not be placed where it may discharge into surface water. If used, weed-free straw mulch shall be applied at a rate of two tons per acre of exposed soils and, if warranted by site conditions, shall be secured to the ground.

9. The cannabis cultivator shall not plant or seed noxious weeds. Prohibited plant species include those identified in the California Invasive Pest Plant Council's database, available at: www.cal-ipc.org/paf/. Locally native, non-invasive, and non-persistent grass species may be used for temporary erosion control benefits to stabilize disturbed land and prevent exposure of disturbed land to rainfall. Nothing in this term may be construed as a ban on cannabis cultivation that complies with the terms of this Policy.

10. Cannabis cultivators shall incorporate erosion control and sediment detention devices and materials into the design, work schedule, and implementation of the cannabis cultivation activities. The erosion prevention and sediment capture measures shall be effective in protecting water quality.

- Interim erosion prevention and sediment capture measures shall be implemented within seven days of completion of grading and land disturbance activities, and Cannabis Cultivation Policy: Attachment A – October 17, 2017 Page 30 shall consist of erosion prevention measures and sediment capture measures including:

  - Erosion prevention measures are required for any earthwork that uses heavy equipment (e.g., bulldozer, compactor, excavator, etc.). Erosion prevention measures may include surface contouring, slope roughening, and upslope storm water diversion. Other types of erosion prevention measures may include mulching, hydroseeding, tarp placement, revegetation, and rock slope protection.
  - Sediment capture measures include the implementation of measures such as gravel bag berms, fiber rolls, straw bale barriers, properly installed silt fences, and sediment settling basins

- Long-term erosion prevention and sediment capture measures shall be implemented as soon as possible and prior to the onset of fall and winter precipitation. Long-term measures may include the use of heavy equipment to reconfigure access roads or improve access road drainage, installation of properly-sized culverts, gravel placement on steeper grades, and stabilization of previously disturbed land.

- Maintenance of all erosion protection and sediment capture measures is required year round. Early monitoring allows for identification of problem areas or underperforming erosion or sediment control measures. Verification of the effectiveness of all erosion prevention and sediment capture measures is required as part of winterization activities.

11. Cannabis cultivators shall only use geotextiles, fiber rolls, and other erosion control measures made of loose-weave mesh (e.g., jute, coconut (coir) fiber, or from other products without welded weaves). To

minimize the risk of ensnaring and strangling wildlife, cannabis cultivators shall not use synthetic (e.g., plastic or nylon) monofilament netting materials for erosion control for any cannabis cultivation activities. This prohibition includes photo- or bio-degradable plastic netting.

12. Cultivation sites constructed on or near slopes with a slope greater than or equal to 30 percent shall be inspected for indications of instability. Indications of instability include the occurrence of slope failures at nearby similar sites, weak soil layers, geologic bedding parallel to slope surface, hillside creep (trees, fence posts, etc. leaning downslope), tension cracks in the slope surface, bulging soil at the base of the slope, and groundwater discharge from the slope. If indicators of instability are present, the cannabis cultivator shall consult with a qualified professional to design measures to stabilize the slope to prevent sediment discharge to surface waters.

13. For areas outside of riparian setbacks or for upland areas, cannabis cultivators shall ensure that rock placed for slope protection is the minimum amount necessary and is part of a design that provides for native plant revegetation. If retaining walls or other structures are required to provide slope stability, they shall be designed by a qualified professional.

14. Cannabis cultivators shall monitor erosion control measures during and after each storm event that produces at least 0.5 in/day or 1.0 inch/7 days of precipitation, and repair or replace, as needed, ineffective erosion control measures immediately.

Access Road/Land Development and Drainage

15. Access roads shall be constructed consistent with the requirements of California Code of Regulations Title 14, Chapter 4. The Road Handbook describes how to implement the regulations and is available at . Existing access roads shall be upgraded to comply with the Road Handbook.

16. Cannabis cultivators shall obtain all required permits and approvals prior to the construction of any access road constructed for cannabis cultivation activities. Permits may include section 404/401 CWA permits, Regional Water Board WDRs (when applicable), CDFW LSA Agreement, and county or local agency permits.

17. Cannabis cultivators shall ensure that all access roads are hydrologically disconnected to receiving waters to the extent possible by installing disconnecting drainage features, increasing the frequency of (inside) ditch drain relief as needed, constructing out-sloped roads, constructing energy dissipating structures, avoiding concentrating flows in unstable areas, and performing inspection and maintenance as needed to optimize the access road performance.

18. New access road alignments should be constructed with grades (slopes) of 3- to 8- percent, or less, wherever possible. Forest access roads should generally be kept below 12-percent except for short pitches of 500 feet or less where road slopes may go up to 20- percent. These steeper access road slopes should be paved or rock surfaced and equipped with adequate drainage. Existing access roads that do not comply with these limits shall be inspected by a qualified professional to determine if improvements are needed.

19. Cannabis cultivators shall decommission or relocate existing roads away from riparian setbacks whenever possible. Roads that are proposed for decommissioning shall be abandoned and left in a condition that provides for long-term, maintenance-free function of drainage and erosion controls. Abandoned roads shall be blocked to prevent unauthorized vehicle traffic.

20. If site conditions prohibit drainage structures (including rolling dips and ditch-relief culverts) at adequate intervals to avoid erosion, the cannabis cultivator shall use bioengineering techniques12 as the

preferred measure to minimize erosion (e.g., live fascines). If bioengineering cannot be used, then engineering fixes such as armoring (e.g., rock of adequate size and depth to remain in place under traffic and flow conditions) and velocity dissipaters (e.g., gravel-filled "pillows" in an inside ditch to trap sediment) may be used for problem sites. The maximum distance between water breaks shall not exceed those defined in the Road Handbook.

21. Cannabis cultivators shall have a qualified professional design the optimal access road alignment, surfacing, drainage, maintenance requirements, and spoils handling procedures

22. Cannabis cultivators shall ensure that access road surfacing, especially within a segment leading to a waterbody, is sufficient to minimize sediment delivery to the wetland or waterbody and maximize access road integrity. Road surfacing may include pavement, chip-seal, lignin, rock, or other material appropriate for timing and nature of use. All access roads that will be used for winter or wet weather hauling/traffic shall be surfaced. Steeper access road grades require higher quality rock (e.g., crushed angular versus river-run) to remain in place. The use of asphalt grindings is prohibited.

23. Cannabis cultivators shall install erosion control measures on all access road approaches to surface water diversion sites to reduce the generation and transport of sediment to streams.

24. Cannabis cultivators shall ensure that access roads are out-sloped whenever possible to promote even drainage of the access road surface, prevent the concentration of storm water flow within an inboard or inside ditch, and to minimize disruption of the natural sheet flow pattern off a hill slope to a stream.

25. If unable to eliminate inboard or inside ditches, the cannabis cultivator shall ensure adequate ditch relief culverts to prevent down-cutting of the ditch and to reduce water runoff concentration, velocity, and erosion. Ditches shall be designed and maintained as recommended by a qualified professional. To avoid point-source discharges, inboard ditches and ditch relief culverts shall be discharged onto vegetated or armored slopes that are designed to dissipate and prevent runoff channelization. Inboard ditches and ditch relief culverts shall be designed to ensure discharges into natural stream channels or watercourses are prevented.

26. Cannabis cultivators shall ensure that access roads are not allowed to develop or show evidence of significant surface rutting or gullying. Cannabis cultivators shall use water bars and rolling dips as designed by a qualified professional to minimize access road surface erosion and dissipate runoff.

27. Cannabis cultivators shall only grade ditches when necessary to prevent erosion of the ditch, undermining of the banks, or exposure of the toe of the cut slope to erosion. Cannabis cultivators shall not remove more vegetation than necessary to keep water moving, as vegetation prevents scour and filters out sediment.

28. Access road storm water drainage structures shall not discharge onto unstable slopes, earthen fills, or directly to a waterbody. Drainage structures shall discharge onto stable areas with straw bales, slash, vegetation, and/or rock riprap.

29. Sediment control devices (e.g., check dams, sand/gravel bag barriers, etc.) shall be used when it is not practical to disperse storm water before discharge to a waterbody. Where potential discharge to a wetland or waterbody exists (e.g., within 200 feet of a waterbody) access road surface drainage shall be filtered through vegetation, slash, other appropriate material, or settled into a depression with an outlet with adequate drainage. Sediment basins shall be engineered and properly sized to allow sediment settling, spillway stability, and maintenance activities.

Drainage Culverts (See also Watercourse Crossings)

30. Cannabis cultivators shall regularly inspect ditch-relief culverts and clear them of any debris or sediment. To reduce ditch-relief culvert plugging by debris, cannabis cultivators shall use 15- to 24-inch diameter pipes, at minimum. In forested areas with a potential for woody debris, a minimum 18-inch diameter pipe shall be used to reduce clogging. Ditch relief culverts shall be designed by a qualified professional based on site-specific conditions.

31. Cannabis cultivators shall ensure that all permanent watercourse crossings that are constructed or reconstructed are capable of accommodating the estimated 100-year flood flow, including debris and sediment loads. Watercourse crossings shall be designed and sized by a qualified professional.

Cleanup, Restoration, and Mitigation

32. Cannabis cultivators shall limit disturbance to existing grades and vegetation to the actual site of the cleanup or remediation and any necessary access routes.

33. Cannabis cultivators shall avoid damage to native riparian vegetation. All exposed or disturbed land and access points within the stream and riparian setback with damaged vegetation shall be restored with regional native vegetation of similar native species. Riparian trees over four inches diameter at breast height shall be replaced by similar native species at a ratio of three to one (3:1). Restored areas must be mulched, using at least 2 to 4 inches of weed-free, clean straw or similar biodegradable mulch over the seeded area. Mulching shall be completed within 30 days after land disturbance activities in the areas cease. Revegetation planting shall occur at a seasonally appropriate time until vegetation is restored to pre-cannabis or pre-Legacy condition or better. Cannabis cultivators shall stabilize and restore any temporary work areas with native vegetation to pre-cannabis cultivation or pre-Legacy conditions or better. Vegetation shall be planted at an adequate density and variety to control surface erosion and re-generate a diverse composition of regional native vegetation of similar native species.

34. Cannabis cultivators shall avoid damage to oak woodlands. Cannabis cultivator shall plant three oak trees for every one oak tree damaged or removed. Trees may be planted in groves in order to maximize wildlife benefits and shall be native to the local county.

35. Cannabis cultivators shall develop a revegetation plan for:
- All exposed or disturbed riparian vegetation areas,
- any oak trees that are damaged or removed, and
- temporary work areas.

Cannabis cultivators shall develop a monitoring plan that evaluates the revegetation plan for five years. Cannabis cultivators shall maintain annual inspections for the purpose of assessing an 85 percent survival and growth of revegetated areas within a five-year period. The presence of exposed soil shall be documented for three years following revegetation work. If the revegetation results in less than an 85 percent success rate, the unsuccessful vegetation areas shall be replanted. Cannabis cultivators shall identify the location and extent of exposed soil associated with the site; pre- and post-revegetation work photos; diagram of all areas revegetated, the planting methods, and plants used; and an assessment of the success of the revegetation program. Cannabis cultivators shall maintain a copy of the revegetation plan and monitoring results onsite and make them available, upon request, to Water Boards staff or authorized representatives. An electronic copy of monitoring results is acceptable in Portable Document Format (PDF).

36. Cannabis cultivators shall revegetate soil exposed as a result of cannabis cultivation activities with native vegetation by live planting, seed casting, or hydroseeding within seven days of exposure.

37. Cannabis cultivators shall prevent the spread or introduction of exotic plant species to the maximum extent possible by cleaning equipment before delivery to the cannabis cultivation Site and before removal, restoring land disturbance with appropriate native species, and post-cannabis cultivation activities monitoring and control of exotic species. Nothing in this term may be construed as a ban on cannabis cultivation that complies with the terms of this Policy.

Stream Crossing Installation and Maintenance

Limitations on Work in Watercourses and Permanently Ponded Areas

38. Cannabis cultivators shall obtain all applicable permits and approvals prior to doing any work in or around waterbodies or within the riparian setbacks. Permits may include section 404/401 CWA permits, Regional Water Board WDRs (when applicable), and a CDFW LSA Agreement.

39. Cannabis cultivators shall avoid or minimize temporary stream crossings. When necessary, temporary stream crossings shall be located in areas where erosion potential and damage to the existing habitat is low. Cannabis cultivators shall avoid areas where runoff from access roadway side slopes and natural hillsides will drain and flow into the temporary crossing. Temporary stream crossings that impede fish passage are strictly prohibited on permanent or seasonal fish-bearing streams.

40. Cannabis cultivators shall avoid or minimize use of heavy equipment13 in a watercourse. If use is unavoidable, heavy equipment may only travel or work in a waterbody with a rocky or cobbled channel. Wood, rubber, or clean native rock temporary work pads shall be used on the channel bottom prior to use of heavy equipment to protect channel bed and preserve channel morphology. Temporary work pads and other channel protection shall be removed as soon as possible once the use of heavy equipment is complete.

41. Cannabis cultivators shall avoid or minimize work in or near a stream, creek, river, lake, pond, or other waterbody. If work in a waterbody cannot be avoided, activities and associated workspace shall be isolated from flowing water by directing the water around the work site. If water is present, then the cannabis cultivator shall develop a site-specific plan prepared by a qualified professional. The plan shall consider partial or full stream diversion and dewatering. The plan shall consider the use of coffer dams upstream and downstream of the work site and the diversion of all flow from upstream of the upstream dam to downstream of the downstream dam, through a suitably sized pipe with intake screens that protect and prevent impacts to fish and wildlife. Cannabis cultivation activities and associated work shall be performed outside the waterbody from the top of the bank to the maximum extent possible.

Temporary Watercourse Diversion and Dewatering: All Live Watercourses

42. Cannabis cultivators shall ensure that coffer dams are constructed prior to commencing work and as close as practicable upstream and downstream of the work area. Cofferdam construction using offsite materials, such as clean gravel bags or inflatable dams, is preferred. Thick plastic may be used to minimize leakage, but shall be completely removed and properly disposed of upon work completion. If the coffer dams or stream diversion fail, the cannabis cultivator shall repair them immediately.

43. When any dam or other artificial obstruction is being constructed, maintained, or placed in operation, the cannabis cultivator shall allow sufficient water at all times to pass downstream to maintain aquatic life below the dam pursuant to Fish and Game Code section 5937.

44. If possible, gravity flow is the preferred method of water diversion. If a pump is used, the cannabis cultivator shall ensure that the pump is operated at the rate of flow that passes through the cannabis cultivation site. Pumping rates shall not dewater or impound water on the upstream side of the coffer dam. When diversion pipe is used it shall be protected from cannabis cultivation activities and maintained to

prevent debris blockage.

45. Cannabis cultivators shall only divert water such that water does not scour the channel bed or banks at the downstream end. Cannabis cultivator shall divert flow in a manner that prevents turbidity, siltation, and pollution and provides flows to downstream reaches. Cannabis cultivators shall provide flows to downstream reaches during all times that the natural flow would have supported aquatic life. Flows shall be of sufficient quality and quantity, and of appropriate temperature to support fish and other aquatic life both above and below the diversion. Block netting and intake screens shall be sized to protect and prevent impacts to fish and wildlife.

46. Once water has been diverted around the work area, cannabis cultivators may dewater the site to provide an adequately dry work area. Any muddy or otherwise contaminated water shall be pumped to a settling tank, dewatering filter bag, or upland area, or to another location approved by CDFW or the appropriate Regional Water Board Executive Officer prior to re-entering the watercourse.

47. Upon completion of work, cannabis cultivators shall immediately remove the flow diversion structure in a manner that allows flow to resume with a minimum of disturbance to the channel substrate and that minimizes the generation of turbidity.

Watercourse Crossings

48. Cannabis cultivators shall ensure that watercourse crossings are designed by a qualified professional.

49. Cannabis cultivators shall ensure that all access road watercourse crossing structures allow for the unrestricted passage of water and shall be designed to accommodate the estimated 100-year flood flow and associated debris (based upon an assessment of the streams potential to generate debris during high flow events). Consult CAL FIRE 100 year Watercourse Crossings document for examples and design calculations, available at: http://calfire.ca.gov/resource_mgt/downloads/100%20yr%20revised%208-08-17%20(finala).pdf.

50. Cannabis cultivators shall ensure that watercourse crossings allow migration of aquatic life during all life stages supported or potentially supported by that stream reach. Design measures shall be incorporated to ensure water depth and velocity does not inhibit migration of aquatic life. Any access road crossing structure on watercourses that supports fish shall be constructed for the unrestricted passage of fish at all life stages, and should use the following design guidelines:
- CDFW's Culvert Criteria for Fish Passage;
- CDFW's Salmonid Stream Habitat Restoration Manual, Volume 2, Part IX: Fish Passage Evaluation at Stream Crossings; and
- National Marine Fisheries Service, Southwest Region Guidelines for Salmonid Passage at Stream Crossings.

51. Cannabis cultivators shall conduct regular inspection and maintenance of stream crossings to ensure crossings are not blocked by debris. Refer to California Board of Forestry Technical Rule No. 5 available at: http://www.calforests.org/wpcontent/uploads/2013/10/Adopted-TRA5.pdf.

52. Cannabis cultivators shall only use rock fords for temporary seasonal crossings on small watercourses where aquatic life passage is not required during the time period of use. Rock fords shall be oriented perpendicular to the flow of the watercourse and designed to maintain the range of surface flows that occur in the watercourse. When constructed, rock shall be sized to withstand the range of flow events that occur at the crossing and rock shall be maintained at the rock ford to completely cover the channel bed and bank surfaces to minimize soil compaction, rutting, and erosion. Rock must extend on either side of

the ford up to the break in slope. The use of rock fords as watercourse crossings for all-weather access road use is prohibited.

53. Cannabis cultivators shall ensure that culverts used at watercourse crossings are designed to direct flow and debris toward the inlet (e.g., use of wing-walls, pipe beveling, rock armoring, etc.) to prevent erosion of road fill, debris blocking the culvert, and watercourses from eroding a new channel.

54. Cannabis cultivators shall regularly inspect and maintain the condition of access roads, access road drainage features, and watercourse crossings. At a minimum, cannabis cultivators shall perform inspections prior to the onset of fall and winter precipitation and following storm events that produce at least 0.5 in/day or 1.0 inch/7 days of precipitation. Cannabis cultivators are required to perform all of the following maintenance:

- Remove any wood debris that may restrict flow in a culvert.

- Remove sediment that impacts access road or drainage feature performance. Place any removed sediment in a location outside the riparian setbacks and stabilize the sediment.

- Maintain records of access road and drainage feature maintenance and consider redesigning the access road to improve performance and reduce maintenance needs.

55. Cannabis cultivators shall compact access road crossing approaches and fill slopes during installation and shall stabilize them with rock or other appropriate surface protection to minimize surface erosion. When possible, cannabis cultivators shall ensure that access roads over culverts are equipped with a critical dip to ensure that, if the culvert becomes blocked or plugged, water can flow over the access road surface without washing away the fill prism. Access road crossings where specific conditions do not allow for a critical dip or in areas with potential for significant debris accumulation, shall include additional measures such as emergency overflow culverts or oversized culverts that are designed by a qualified professional.

56. Cannabis cultivators shall ensure that culverts used at watercourse crossings are: 1) installed parallel to the watercourse alignment to the extent possible, 2) of sufficient length to extend beyond stabilized fill/sidecast material, and 3) embedded or installed at the same level and gradient of the streambed in which they are being placed to prevent erosion.

Soil Disposal and Spoils Management

57. Cannabis cultivators shall store soil, construction, and waste materials outside the riparian setback except as needed for immediate construction needs. Such materials shall not be stored in locations of known slope instability or where the storage of construction or waste material could reduce slope stability.

58. Cannabis cultivators shall separate large organic material (e.g., roots, woody debris, etc.) from soil materials. Cannabis cultivators shall either place the large organic material in long-term, upland storage sites, or properly dispose of these materials offsite.

59. Cannabis cultivators shall store erodible soil, soil amendments, and spoil piles to prevent sediment discharges in storm water. Storage practices may include use of tarps, upslope land contouring to divert surface flow around the material, or use of sediment control devices (e.g., silt fences, straw wattles, etc.).

60. Cannabis cultivators shall contour and stabilize stored spoils to mimic natural slope contours and drainage patterns (as appropriate) to reduce the potential for fill saturation and slope failure. 61. For soil

disposal sites cannabis cultivators shall:

- revegetate soil disposal sites with a mix of native plant species,

- cover the seeded and planted areas with mulched straw at a rate of two tons per acre, and

- apply non-synthetic netting or similar erosion control fabric (e.g., jute) on slopes greater than 2:1 if the site is erodible.

62. Cannabis cultivators shall haul away and properly dispose of excess soil and other debris as needed to prevent discharge to waters of the state.

Riparian and Wetland Protection and Management

63. Cannabis cultivators shall not disturb aquatic or riparian habitat, such as pools, spawning sites, large wood, or shading vegetation unless authorized under a CWA section 404 permit, CWA section 401 certification, Regional Water Board WDRs (when applicable), or a CDFW LSA Agreement.

64. Cannabis cultivators shall maintain existing, naturally occurring, riparian vegetative cover (e.g., trees, shrubs, and grasses) in aquatic habitat areas to the maximum extent possible to maintain riparian areas for streambank stabilization, erosion control, stream shading and temperature control, sediment and chemical filtration, aquatic life support, wildlife support, and to minimize waste discharge.

Water Storage and Use Water

Supply, Diversion, and Storage

65. Cannabis cultivators shall only install, maintain, and destroy wells in compliance with county, city, and local ordinances and with California Well Standards as stipulated in California Department of Water Resources Bulletins 74-90 and 74-81.14

66. All water diversions for cannabis cultivation from a surface stream, subterranean stream flowing through a known and definite channel (e.g., groundwater well diversions from subsurface stream flows), or other surface waterbody are subject to the surface water Numeric and Narrative Instream Flow Requirements. This includes lakes, ponds, and springs (unless the spring is deemed exempt by the Deputy Director).

67. Groundwater diversions may be subject to additional requirements, such as a forbearance period, if the State Water Board determines those requirements are reasonably necessary to implement the purposes of this Policy.

68. Cannabis cultivators are encouraged to use appropriate rainwater catchment systems to collect from impermeable surfaces (e.g., roof tops, etc.) during the wet season and store storm water in tanks, bladders, or off-stream engineered reservoirs to reduce the need for surface water or groundwater diversions.

69. Cannabis cultivators shall not divert surface water unless it is diverted in accordance with an existing water right that specifies, as appropriate, the source, location of the point of diversion, purpose of use, place of use, and quantity and season of diversion. Cannabis cultivators shall maintain documentation of the water right at the cannabis cultivation site. Documentation of the water right shall be available for review and inspection by the Water Boards, CDFW, and any other authorized representatives of the Water Boards or CDFW.

70. Cannabis cultivators shall ensure that all water diversion facilities are designed, constructed, and

maintained so they do not prevent, impede, or tend to prevent the passing of fish, as defined by Fish and Game Code section 45, upstream or downstream, as required by Fish and Game Code section 5901. This includes but is not limited to the supply of water at an appropriate depth, temperature, and velocity to facilitate upstream and downstream aquatic life movement and migration. Cannabis cultivators shall allow sufficient water at all times to pass past the point of diversion to keep in good condition any fish that may be planted or exist below the point of diversion as defined by Fish and Game Code section 5937. Cannabis cultivators shall not divert water in a manner contrary to or inconsistent with these Requirements.

71. Cannabis cultivators issued a Cannabis SIUR by the State Water Board shall not divert surface water unless in compliance with all additional Cannabis SIUR conditions required by CDFW.

72. Water diversion facilities shall include satisfactory means for bypassing water to satisfy downstream prior rights and any requirements of policies for water quality control, water quality control plans, water quality certifications, waste discharge requirements, or other local, state or federal instream flow requirements. Cannabis cultivators shall not divert in a manner that results in injury to holders of legal downstream senior rights. Cannabis cultivators may be required to curtail diversions should diversion result in injury to holders of legal downstream senior water rights or interfere with maintenance of downstream instream flow requirements.

73. Fuel powered (e.g., gas, diesel, etc.) diversion pumps shall be located in a stable and secure location outside of the riparian setbacks unless authorized under a 404/401 CWA permits, a CDFW LSA Agreement, coverage under the Cannabis General Order water quality certification, or site-specific WDRs issued by the Regional Water Board. Use of non-fuel powered diversion pumps (solar, electric, gravity, etc.) is encouraged. In all cases, all pumps shall:

1. be properly maintained,
2. have suitable containment to ensure any spills or leaks do not enter surface waterbodies or groundwater, and
3. have sufficient overhead cover to prevent exposure of equipment to precipitation.

74. No water shall be diverted unless the cannabis cultivator is operating the water diversion facility with a CDFW-approved water-intake screen (e.g. fish screen). The water intake screen shall be designed and maintained in accordance with screening criteria approved by CDFW. The screen shall prevent wildlife from entering the diversion intake and becoming entrapped. The cannabis cultivator shall contact the regional CDFW Office, LSA Program for information on screening criteria for diversion(s). The cannabis cultivator shall provide evidence that demonstrates that the water intake screen is in good condition whenever requested by the Water Boards or CDFW. Points of re-diversion from off-stream storage facilities that are open to the environment shall have a water intake screen, as required by CDFW.

75. Cannabis cultivators shall inspect, maintain, and clean water intake screens and bypass appurtenances as directed by CDFW to ensure proper operation for the protection of fish and wildlife.

76. Cannabis cultivators shall not obstruct, alter, dam, or divert all or any portion of a natural watercourse prior to obtaining all applicable permits and approvals. Permits may include a valid water right, 404/401 CWA permits, a CDFW LSA Agreement, coverage under the Cannabis General Order water quality certification, or site-specific WDRs issued by the Regional Water Board.

77. Cannabis cultivators shall plug, block, cap, disconnect, or remove the diversion intake associated with cannabis cultivation activities during the surface water forbearance period, unless the diversion intake is used for other beneficial uses, to ensure no water is diverted during that time.

78. Cannabis cultivators shall not divert from a surface water or from a subterranean stream for cannabis cultivation at a rate more than a maximum instantaneous diversion rate of 10 gallons per minute, unless authorized under an existing appropriative water right.

82. Onstream storage reservoirs are prohibited unless either:

- The cannabis cultivator has an existing water right with irrigation as a designated use, issued prior to October 31, 2017, that authorizes the onstream storage reservoir, or

- The cannabis cultivator obtains an appropriative water right permit with irrigation as a designated use prior to diverting water from an onstream storage reservoir for cannabis cultivation. Cannabis cultivators with a pending application or an unpermitted onstream storage reservoir shall not divert for cannabis cultivation until the cannabis cultivator has obtain a valid water right.

83. Cannabis cultivators are encouraged to install separate storage systems for water diverted for cannabis irrigation and water diverted for any other beneficial uses,16 or otherwise shall install separate measuring devices to quantify diversion to and from each storage facility, including the quantity of water diverted and the quantity, place, and purpose of use (e.g., cannabis irrigation, other crop irrigation, domestic, etc.) for the stored water.

84. The cannabis cultivator shall install and maintain a measuring device(s) for surface water or subterranean stream diversions. The measuring device shall be, at a minimum equivalent to the requirements for direct diversions greater than 10 acre-feet per year in California Code of Regulations, Title 23, Division 3, Chapter 2.717. The measuring device(s) shall be located as close to the point of diversion as reasonable. Cannabis cultivators shall maintain daily diversion records for water diverted for cannabis cultivation. Cannabis cultivators shall maintain separate records that document the amount of water used for cannabis cultivation separated out from the amount of water used for other irrigation purposes and other beneficial uses of water (e.g., domestic, fire protection, etc.). Cannabis cultivators shall maintain daily diversion records at the cultivation site and shall make the records available for review or by request by the Water Boards CDFW, or any other authorized representatives of the Water Boards or CDFW. Daily diversion records shall be retained for a minimum of five years. Compliance with this term is required for any surface water diversion for cannabis cultivation, even those under 10 acre-feet per year.

85. The State Water Board intends to develop and implement a basin-wide program for realtime electronic monitoring and reporting of diversions, withdrawals, releases and streamflow in a standardized format if and when resources become available. Such realtime reporting will be required upon a showing by the State Water Board that the program and the infrastructure are in place to accept real-time electronic reports. Implementation of the reporting requirements shall not necessitate amendment to this Requirement.

86. Cannabis cultivators shall not use off-stream storage reservoirs and ponds to store water for cannabis cultivation unless they are sited and designed or approved by a qualified professional in compliance with Division of Safety of Dams (DSOD), county, and/or city requirements, as applicable. If the DSOD, county, and/or city do not have established requirements they shall be designed consistent with the Natural Resource Conservation Service National Engineering Manual. Reservoirs shall be designed with an adequate overflow outlet that is protected and promotes the dispersal and infiltration of flow and prevents channelization. All off-stream storage reservoirs and ponds shall be designed, managed, and maintained to accommodate average annual winter period precipitation and storm water inputs to reduce the potential for overflow. Cannabis cultivators shall plant native vegetation along the perimeter of the

reservoir in locations where it does not impact the structural integrity of the reservoir berm or spillway. The cannabis cultivator shall control vegetation around the reservoir berm and spillway to allow for visual inspection of berm and spillway condition and control burrowing animals as necessary.

87. Cannabis cultivators shall implement an invasive species management plan prepared by a Qualified Biologist for any existing or proposed water storage facilities that are open to the environment. The plan shall include, at a minimum, an annual survey for bullfrogs and other invasive aquatic species. If bullfrogs or other invasive aquatic species are identified, eradication measures shall be implemented under the direction of a qualified biologist, if appropriate after consultation with CDFW (pursuant to Fish and Game Code section 6400). Eradication methods can be direct or indirect. Direct methods may include handheld dip net, hook and line, lights, spears, gigs, or fish tackle under a fishing license (pursuant to Fish and Game Code section 6855). An indirect method may involve seasonally timed complete dewatering and a drying period of the off-stream storage facility under a Permit to Destroy Harmful Species (pursuant to Fish and Game Code section 5501) issued by CDFW.

88. Water storage bladders are not encouraged for long-term use. If bladders are used, the cannabis cultivator shall ensure that the bladder is designed and properly installed to store water and that the bladder is sited to minimize the potential for water to flow into a watercourse in the event of a catastrophic failure. If a storage bladder has been previously used, the cannabis cultivator shall carefully inspect the bladder to confirm its integrity and confirm the absence of any interior residual chemicals prior to resuming use. Cannabis cultivators shall periodically inspect water storage bladders and containment features to ensure integrity. Water storage bladders shall be properly disposed of or recycled and not resold when assurance of structural integrity is no longer guaranteed.

89. Cannabis cultivators shall not use water storage bladders unless the bladder is safely contained within a secondary containment system with sufficient capacity to capture 110 percent of a bladder's maximum possible contents in the event of bladder failure (i.e., 110 percent of bladder's capacity). Secondary containment systems shall be of sufficient strength and stability to withstand the forces of released contents in the event of catastrophic bladder failure. In addition, secondary containment systems that are open to the environment shall be designed and maintained with sufficient capacity to accommodate precipitation and storm water inputs from a 25-year, 24-hour storm event.

90. Cannabis cultivators shall not cause or allow any overflow from off-stream water storage facilities that are closed to the environment (e.g., tanks and bladders) if the off-stream facilities are served by a diversion from surface water or groundwater. Cannabis cultivators shall regularly inspect for and repair all leaks of the diversion and storage system.

91. Water storage tanks, bladders, and other off-stream water storage facilities that are closed to the environment shall not be located in a riparian setback or next to equipment that generates heat. Cannabis cultivators shall place water storage tanks, bladders, and other off-stream water storage facilities that are closed to the environment in areas that allow for ease of installation, access, maintenance, and minimize road development.

92. Cannabis cultivators shall install vertical and horizontal tanks according to manufacturer's specifications and shall place tanks on properly compacted soil that is free of rocks and sharp objects and capable of bearing the weight of the tank and its maximum contents with minimal settlement. Tanks shall not be located in areas of slope instability. Cannabis cultivators shall install water storage tanks capable of containing more than 8,000 gallons only on a reinforced concrete pad providing adequate support and enough space to attach a tank restraint system (anchor using the molded-in tie down lugs with moderate tension, being careful not to over-tighten) per the recommendations of a qualified professional.

93. To prevent rupture or overflow and runoff, cannabis cultivators shall only use water storage tanks and bladders equipped with a float valve, or equivalent device, to shut off diversion when storage systems are full. Cannabis cultivators shall install any other measures necessary to prevent overflow of storage systems to prevent runoff and the diversion of more water than can be used and/or stored.

94. Cannabis cultivators shall ensure that all vents and other openings on water storage tanks are designed to prevent the entry and/or entrapment of wildlife.

95. Cannabis cultivators shall retain, for a minimum of five years, appropriate documentation for any hauled water18 used for cannabis cultivation. Documentation for hauled water shall include, for each delivery, all of the following:

1. A receipt that shows the date of delivery and the name, address, license plate number, and license plate issuing state for the water hauler,
2. A copy of the Water Hauler's License (California Health and Safety Code section 111120),
3. A copy of proof of the Water Hauler's water right, groundwater well, or other authorization to take water, and the location of the water source, and
4. The quantity of water delivered or picked up from a water source, in gallons. Documentation shall be made available, upon request, to Water Boards or CDFW staff and any other authorized representatives of the Water Boards or CDFW.

Water Conservation and Use

96. Cannabis cultivators shall regularly inspect their entire water delivery system for leaks and immediately repair any leaky faucets, pipes, connectors, or other leaks.

97. Cannabis cultivators shall use weed-free mulch in cultivation areas that do not have ground cover to conserve soil moisture and minimize evaporative loss.

98. Cannabis cultivators shall implement water conserving irrigation methods (e.g., drip or trickle irrigation, micro-spray, or hydroponics).

99. Cannabis cultivators shall maintain daily records of all water used for irrigation of cannabis. Daily records may be calculated by the use of a measuring device or, if known, by calculating the irrigation system rates and duration of time watered (e.g., irrigating for one hour twice per day using 50 half-gallon drips equates to 50 gallons per day (1*2*50*0.5) of water used for irrigation). Cannabis cultivators shall retain, for a minimum of 5 years, irrigation records at the cannabis cultivation site and shall make all irrigation records available for review by the Water Boards, CDFW and any other authorized representatives of the Water Boards or CDFW.

Irrigation Runoff

100. Cannabis cultivators shall regularly inspect for leaks in mainlines, laterals, in irrigation connections, sprinkler heads, or at the ends of drip tape and feeder lines and immediately repair any leaks found upon detection.

101. The irrigation system shall be designed to include redundancy (e.g., safety valves) in the event that leaks occur, so that waste of water and runoff is prevented and minimized.

102. Cannabis cultivators shall regularly replace worn, outdated, or inefficient irrigation system components and equipment to ensure a properly functioning, leak-free irrigation system at all times.

103. Cannabis cultivators shall minimize irrigation deep percolation by applying irrigation water at

agronomic rates.

Fertilizers, Pesticides, and Petroleum Products

104. Cannabis cultivators shall not mix, prepare, over apply, or dispose of agricultural chemicals/products (e.g., fertilizers, pesticides, and other chemicals as defined in the applicable water quality control plan) in any location where they could enter the riparian setback or waters of the state. The use of agricultural chemicals inconsistently with product labeling, storage instructions, or DPR requirements for pesticide applications is prohibited. Disposal of unused product and containers shall be consistent with labels.

105. Cannabis cultivators shall keep and use absorbent materials designated for spill containment and spill cleanup equipment on-site for use in an accidental spill of fertilizers, petroleum products, hazardous materials, and other substances which may degrade waters of the state. The cannabis cultivator shall immediately notify the California Office of Emergency Services at 1-800-852-7550 and immediately initiate cleanup activities for all spills that could enter a waterbody or degrade groundwater.

106. Cannabis cultivators shall establish and use a separate storage area for pesticides, and fertilizers, and another storage area for petroleum or other liquid chemicals (including diesel, gasoline, oils, etc.). All such storage areas shall comply with the riparian setback Requirements, be in a secured location in compliance with label instructions, outside of areas of known slope instability, and be protected from accidental ignition, weather, and wildlife. All storage areas shall have appropriate secondary containment structures, as necessary, to protect water quality and prevent spillage, mixing, discharge, or seepage. Storage tanks and containers must be of suitable material and construction to be compatible with the substances stored and conditions of storage, such as pressure and temperature.

107. Throughout the wet season, Cannabis Cultivators shall ensure that any temporary storage areas have a permanent cover and side-wind protection or be covered during non-working days and prior to and during rain events.

108. Cannabis cultivators shall only use hazardous materials24 in a manner consistent with the product's label.

109. Cannabis cultivators shall only keep hazardous materials in their original containers with labels intact, and shall store hazardous materials to prevent exposure to sunlight, excessive heat, and precipitation. Cannabis cultivators shall provide secondary containment for hazardous materials to prevent possible exposure to the environment. Disposal of unused hazardous materials and containers shall be consistent with the label.

110. Cannabis cultivators shall only mix, prepare, apply, or load hazardous materials outside of the riparian setbacks.

111. Cannabis cultivators shall not apply agricultural chemicals within 48 hours of a predicted rainfall event of 0.25 inches or greater with a probability greater than 50-percent. In the Lake Tahoe Hydrologic Unit, cannabis cultivators shall not apply agricultural chemicals within 48 hours of any weather pattern that is forecast to have a 30 percent or greater chance of precipitation greater than 0.1 inch per 24 hours. This requirement may be updated based on amendments to the Lahontan Regional Water Board construction storm water general order.

Fertilizers and Soils

112. To minimize infiltration and water quality degradation, Cannabis cultivators shall irrigate and apply fertilizer to consistent with the crop need (i.e., agronomic rate).

113. When used, cannabis cultivators shall apply nitrogen to cannabis cultivation areas consistent with crop need (i.e., agronomic rate). Cannabis cultivators shall not apply nitrogen at a rate that may result in a discharge to surface water or groundwater that causes or contributes to exceedance of water quality objectives, and no greater than 319 pounds/acre/year unless plant tissue analysis performed by a qualified individual demonstrates the need for additional nitrogen application. The analysis shall be performed by an agricultural laboratory certified by the State Water Board's Environmental Laboratory Accreditation Program.

114. Cannabis cultivators shall ensure that potting soil or soil amendments, when not in use, are placed and stored with covers, when needed, to protect from rainfall and erosion, to prevent discharge to waters of the state, and to minimize leaching of waste constituents into groundwater.

Pesticides and Herbicides

115. Cannabis cultivators shall not apply restricted materials, including restricted pesticides, or allow restricted materials to be stored at the cannabis cultivation site.

116. Cannabis cultivators shall implement integrated pest management strategies where possible to reduce the need and use of pesticides and the potential for discharges to waters of the state.

Petroleum Products and Other Chemicals

117. Cannabis cultivators shall only refuel vehicles or equipment outside of riparian setbacks. Cannabis cultivators shall inspect all equipment using oil, hydraulic fluid, or petroleum products for leaks prior to use and shall monitor equipment for leakage. Stationary equipment (e.g., motors, pumps, generators, etc.) and vehicles not in use shall be located outside of riparian setbacks. Spill and containment equipment (e.g., oil spill booms, sorbent pads, etc.) shall be stored onsite at all locations where equipment is used or staged.

118. Cannabis cultivators shall store petroleum, petroleum products, and similar fluids in a manner that provides chemical compatibility, provides secondary containment, and protection from accidental ignition, the sun, wind, and rain.

119. Use of an underground storage tank(s) for the storage of petroleum products is allowed if compliant with all applicable federal, state, and local laws; regulations; and permitting requirements.

Cultivation-Related Waste

120. Cannabis cultivators shall contain and regularly remove all debris and trash associated with cannabis cultivation activities from the cannabis cultivation site. Cannabis cultivators shall only dispose of debris and trash at an authorized landfill or other disposal site in compliance with state and local laws, ordinances, and regulations. Cannabis cultivators shall not allow litter, plastic, or similar debris to enter the riparian setback or waters of the state. Cannabis plant material may be disposed of onsite in compliance with any applicable CDFA license conditions.

121. Cannabis cultivators shall only dispose or reuse spent growth medium (e.g., soil and other organic media) in a manner that prevents discharge of soil and residual nutrients and chemicals to the riparian setback or waters of the state. Spent growth medium shall be covered with plastic sheeting or stored in water tight dumpsters prior to proper disposal or reuse. Spent growth medium should be disposed of at an authorized landfill or other disposal site in compliance with state and local laws, ordinances, and regulations. Proper reuse of spent growth medium may include incorporation into garden beds or spreading on a stable surface and revegetating the surface with native plants. Cannabis cultivators shall use erosion control techniques, as needed, for any reused or stored spent growth medium to prevent

polluted runoff.

Refuse and Domestic Waste

122. Cannabis cultivators shall ensure that debris, soil, silt, bark, slash, sawdust, rubbish, creosote-treated wood, raw cement and concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to any life stage of fish and wildlife or their habitat (includes food sources) does not contaminate soil or enter the riparian setback or waters of the state.

123. Cannabis cultivators shall not dispose of domestic wastewater unless it meets applicable local agency and/or Regional Water Board requirements. Cannabis cultivators shall ensure that human or animal waste is disposed of properly. Cannabis cultivators shall ensure onsite wastewater treatment systems (e.g., septic system) are permitted by the local agency or applicable Regional Water Board.

124. If used, chemical toilets or holding tanks shall be maintained in a manner appropriate for the frequency and conditions of usage, sited in stable locations, and comply with the riparian setback Requirements.

Winterization

125. Cannabis cultivators shall implement all applicable Erosion Control and Soil Disposal and Spoils Management Requirements in addition to the Winterization Requirements below by the onset of the winter period.

126. Cannabis cultivators shall block or otherwise close any temporary access roads to all motorized vehicles no later than the onset of the winter period each year.

127. Cannabis cultivators shall not operate heavy equipment of any kind at the cannabis cultivation site during the winter period, unless authorized for emergency repairs contained in an enforcement order issued by the State Water Board, Regional Water Board, or other agency having jurisdiction.

128. Cannabis cultivators shall apply linear sediment controls (e.g., silt fences, wattles, etc.) along the toe of the slope, face of the slope, and at the grade breaks of exposed slopes to comply with sheet flow length at the frequency specified below.

Slope (percent)	Sheet Flow Length not to Exceed (feet)
0 – 25	20
25 – 50	15
>50	10

129. Cannabis cultivators shall maintain all culverts, drop inlets, trash racks and similar devices to ensure they are not blocked by debris or sediment. The outflow of culverts shall be inspected to ensure erosion is not undermining the culvert. Culverts shall be inspected prior to the onset of fall and winter precipitation and following precipitation events that produce at least 0.5 in/day or 1.0 inch/7 days of precipitation to determine if maintenance or cleaning is required.

130. Cannabis cultivators shall stabilize all disturbed areas and construction entrances and exits to control erosion and sediment discharges from land disturbance.

131. Cannabis cultivators shall cover and berm all loose stockpiled construction materials (e.g., soil, spoils, aggregate, etc.) that are not actively (scheduled for use within 48 hours) being used as needed to prevent erosion by storm water. The cannabis cultivator shall have adequate cover and berm materials

available onsite if the weather forecast indicates a probability of precipitation.

132. Cannabis cultivators shall apply erosion repair and control measures to the bare ground (e.g., cultivation area, access paths, etc.) to prevent discharge of sediment to waters of the state.

133. As part of the winterization plan approval process, the Regional Water Board may require cannabis cultivators to implement additional site-specific erosion and sediment control requirements if the implementation of the Requirements in this section do not adequately protect water quality.